



IN THE CLAIMS

1-6. (Previously Canceled)

7. (Currently Amended) An imaging system comprising:
a first group pixel comprising two or more photodetectors for providing two or more corresponding pixel image signals;
a second group pixel comprising two or more photodetectors for providing two or more corresponding pixel image signals;
a summer responsive to two or more of the corresponding pixel image signals for outputting an aggregate image signal;
a variable-gain amplifier responsive to the aggregate image signal for outputting an amplified aggregate image signal based on an adjustable amplifier gain; and
an automatic gain controller for adjusting the adjustable amplifier gain based on the aggregate image signal;
an address line; and
a signal line, with each photodetector of the first group pixel coupled to the address line and the signal line.

8. (Previously Amended) The imaging system of claim 7 wherein the summer is digital.

9. (Original) The imaging system of claim 7 wherein the variable-gain amplifier is a digital amplifier.

10-12. (Canceled)

13. (Currently Amended) An imaging system comprising:
two or more group pixels comprising two or more photodetector circuits for providing two or more corresponding pixel image signals, with each photodetector circuit having a surface area less than 50 square microns and comprising:
a source-follower transistor having a gate, source, and drain;
a ground node; and

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a photodiode coupled between the gate of the source-follower transistor and the ground node;
a summer responsive to two or more of the corresponding pixel image signals for outputting an aggregate image signal;
a variable-gain amplifier responsive to the aggregate image signal for outputting an amplified aggregate image signal based on an adjustable amplifier gain; ~~and~~
an automatic gain controller for adjusting the adjustable amplifier gain based on the aggregate image signal;
an address line; and
a signal line, with each photodetector circuit of one of the group pixels coupled to the address line and the signal line.

14. (Previously Amended) The imaging system of claim 13 wherein the summer comprises a digital summer.

15. (Original) The imaging system of claim 13 wherein the variable-gain amplifier is a digital amplifier.

16. (Currently Amended) An imaging system comprising:
two or more group pixels each comprising photodetection means for providing two or more corresponding pixel image signals;
a summer responsive to two or more of the corresponding pixel image signals for outputting an aggregate image signal;
a variable-gain amplifier responsive to the aggregate image signal for outputting an amplified aggregate image signal based on an adjustable amplifier gain; ~~and~~
an automatic gain controller for adjusting the adjustable amplifier gain based on the amplified aggregate image signal;
an address line; and
a signal line, with each photodetector of at least one of the group pixels coupled to the address line and the signal line.

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17. (Previously Amended) The imaging system of claim 16 wherein the summer comprises a digital summer.

18. (Original) The imaging system of claim 16 wherein the variable-gain amplifier is a digital amplifier.

19-21. (Canceled)

22-27. (Previously Canceled)

28. (Previously Added) The imaging system of claim 7, wherein each photodetector in the first group pixel is tuned to detect substantially the same color light.

29-31. (Canceled)

32. (Previously Added) The imaging system of claim 13, wherein each photodetector in the first group pixel is tuned to detect substantially the same color light.

33. (Previously Added) The imaging system of claim 13, further comprising an address line and a signal line, with each photodetector coupled to the address line and the signal line.

34. (Previously Added) The imaging system of claim 16, wherein each photodetector in the first group pixel is tuned to detect substantially the same color light.

35. (Previously Added) The imaging system of claim 16, further comprising an address line and a signal line, with each photodetector coupled to the address line and the signal line.

36-37. (Canceled)

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38. (Currently Amended) The imaging system of claim ~~107~~, wherein the summer is responsive to two or more of the corresponding pixel images signals from the first group pixel, and wherein the system further comprises:

another summer responsive to two or more of the corresponding pixel image signals from the second group pixel for outputting a second aggregate image signal;

~~a first another~~ variable-gain amplifier responsive to the second aggregate image signal from the other summer for outputting ~~a first another~~ amplified aggregate image signal based on ~~a first another~~ adjustable amplifier gain;

~~a first another~~ automatic gain controller for adjusting the ~~first variable gain other~~ adjustable amplifier gain based on the ~~first second~~ amplified aggregate image signal;

~~a second variable gain amplifier responsive to the aggregate image signal from the other summer for outputting a second amplified aggregate image signal based on a second adjustable amplifier gain; and~~

~~a second automatic gain controller for outputting the second variable gain amplifier gain based on the second amplified aggregate image signal.~~

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